

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT: Seong-Bong KIM et al. EXAMINER: Brenda A. Lamb
SERIAL NO.: 10/790,081 GROUP ART UNIT: 1734
FILED: March 2, 2004 Docket: 8054L-204T (LW8102US/MS)
FOR: DISCHARGING UNIT FOR DISCHARGING A PHOTOSENSITIVE MATERIAL, COATER HAVING THE DISCHARGING UNIT, AND APPARATUS FOR COATING A PHOTOSENSITIVE MATERIAL HAVING THE COATER

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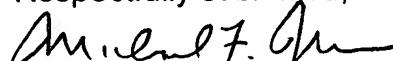
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Michael F. Morano



PATENT APPLICATION

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APPEAL BRIEF

Appeal from Group 1734

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I. INTRODUCTION

This Appeal is from a Final Office Action mailed on March 28, 2006 (hereinafter, referred to as the "Final Action") finally rejecting claims 34-39 of the above-identified application, and an Advisory Action mailed on June 5, 2006. Applicants commenced this Appeal by a Notice of Appeal dated June 26, 2006. The Notice of Appeal was filed with a Pre-Appeal Brief Request For Review. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed on August 3, 2006. The Notice of Panel Decision states the application remains under appeal and should proceed to the Board of Patent Appeals and Interferences. Accordingly, Applicants hereby submit this Appeal Brief.

II. REAL PARTY IN INTEREST

The real party in interest for the above-identified application is Samsung Electronics Co., Ltd., the assignee of the entire right, title and interest in and to the subject application by virtue of an assignment of recorded in the U.S. Patent and Trademark Office at reel 015033 frame 0974.

III. RELATED APPEALS AND INTERFERENCES

There are no Appeals or Interferences known to Applicants, Applicants' representatives or the Assignee, which would directly affect or be indirectly affected by or have a bearing on the Board's decision in the pending Appeal.

IV. STATUS OF CLAIMS

Claims 27-39 are pending, and claims 27-33 are allowed. Claims 34-39 stand rejected and are under appeal. Claims 1-26 have been canceled. The claims on appeal are set forth in the attached Appendix.

Claim 34 is the only independent claim on appeal. Claims 35, 37 and 38 directly depend from claim 34. Claim 36 depends from claim 35 and claim 39 depends from claim 38.

In the Final Action, the Examiner indicated that claims 37-39 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph, and to include all of the limitations of the base claim and any intervening claims.

V. STATUS OF AMENDMENTS

A Response to the Final Action was mailed on May 17, 2006. The Response did not include any amendments to the claims. Accordingly, no after final claim amendments were filed in this case subsequent to the Final Action.

VI. SUMMARY OF THE CLAIMED SUBJECT MATTER

In general, the claimed subject matter relates to an apparatus for coating a photosensitive layer on a substrate.

A. Embodiment Of Claim 34

Claim 34 recites, inter alia, a coater including a discharging unit for discharging photosensitive material onto a unit substrate and a transfer unit for moving the discharging unit along a surface of the substrate. The coater coats the photosensitive layer on the substrate by the unit

substrate. A detector is disposed in front of the coater, and detects foreign matters on the surface of the substrate.

For purposes of illustration, the embodiment of claim 34 will be discussed hereafter with reference to Figures 2A, 2B, 3, 4, 5A, 5B, 6, 7, 9 and 10, and the descriptions in Applicants' specification at page 4, lines 11-12 (¶ 0015 of US 2004/0173148), page 10, line 11 to page 11, line 11 (¶ 0048-49 of US 2004/0173148), page 12, lines 9-10 (¶ 0052 of US 2004/0173148), page 14, line 19 to page 15, line 5 (¶ 0063 of US 2004/0173148), page 17, lines 16-21 (¶ 0072 of US 2004/0173148), and page 22, line 19 to page 23, line 7 (¶ 0092 of US 2004/0173148). It is to be understood that the following description of the claimed embodiment and reference to the drawings are for illustrative purposes to provide some context for the claimed embodiment, but nothing herein shall be construed as placing any limitation on the claimed embodiment.

More specifically, by way of example, Figure 2A shows a coater including a discharging unit 100 for discharging photosensitive material onto a unit substrate 10, 20. See, e.g., Applicants' Specification, page 10, line 11 to page 11, line 11. Discharge units 100 are also illustrated in Figs. 2B, 3 and 4. Figs. 5A and 5B illustrate a discharging unit 200. Figures 6 and 7 show a transfer unit 700 for moving discharging units 500 along a surface of the substrate 1. See, e.g., Applicants' Specification, page 17, lines 16-21. The coater coats the photosensitive layer on the substrate 1 by the unit substrate 10, 20. Referring to Figs. 9 and 10, a detector 1200 is disposed in front of the coater, and detects foreign matters F on the surface of the substrate. See, e.g., Applicants' Specification, page 22, line 19 to page 23, line 7.

VII. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- (1) Claims 34-39 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- (2) Claims 34-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,398,870 (“Kaya”) in view of U.S. Patent No. 3,753,085 (“Morton”).
- (3) Claims 34-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaya in view of Morton, and, if necessary, U.S. Patent Nos. 5,575,852 (“Chase”) and 3,924,565 (“Benner”).

VIII. ARGUMENT

A. Rejection Of Claims 34-39 Under 35 U.S.C. § 112 As Being Indefinite

With respect to the rejection under 35 U.S.C. § 112, the Examiner maintains that claim 34 “is confusing due to a typographical error”, and states that Applicants should amend claim 34 to recite “the coater coating the photosensitive layer on the substrate by the discharging unit” instead of “the coater coating the photosensitive layer on the substrate by the unit substrate”.

However, the Examiner’s requirement that Applicants amend the claim is not necessary and amounts to a clear error in the application of Section 112. The phrase “by the unit substrate” as it is used in claim 34 describes that the photosensitive layer is being coated “per or via each unit substrate.”

M.P.E.P. § 2111.01 states “[i]f extrinsic reference sources, such as dictionaries, evidence more than one definition for the term, the intrinsic record must be consulted to identify which of the

different possible definitions is most consistent with applicant's use of the terms." (citing *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1300, 67 USPQ2d 1132, 1137 (Fed. Cir. 2003)).

In the June 5, 2006 Advisory Action, the Examiner maintains that "the term 'by' as defined by The American Heritage Dictionary, Second Dictionary, refers to 'with the help or use of, through'". See June 5, 2006 Advisory Action, Continuation Sheet. However, the American Heritage Dictionary also defines "by" as "[u]sed to indicate a succession of specified . . . quantities", e.g., "*One by one they left.*" See *The American Heritage Dictionary of the English Language, Fourth Edition* (Houghton Mifflin Co., 2000), <http://education.yahoo.com/reference/dictionary/>.

Although the term "by" may be subject to more than one definition, it is clear from Applicants' specification that the word "by" in the phrase "by the unit substrate" is being used as a function word to indicate units or increments. For example, as shown in Applicants' disclosure, the discharging unit may include an outlet divider 131, or a spacer block 250, which is equal to the distance between the unit substrates to cause the photosensitive layer to be coated only onto the unit substrates 10, 20. See, e.g., Applicants' Disclosure, Figs. 2B, 3, 4, 5A and 5B; and page, 4, lines 11-12 and page 10, line 11 to page 11, line 11. Moreover, Applicants' specification states that the photosensitive layer is coated "on a substrate by the unit substrate divided on the substrate." See id. Page 4, lines 11-12. Further, Applicants' specification states that the photosensitive material is discharged onto the unit substrate, and prevented from discharging on the region of the mother substrate corresponding to the interval between the unit substrates 10 and 20. See id. page 14, line 19 to page 15, line 5.

Therefore, in accordance with section 2111.01 of the M.P.E.P., the intrinsic record confirms

that "by" as used by Applicants is most consistent with "by" indicating a succession of specified quantities. As such, "by the unit substrate" properly indicates that the photosensitive layer is incrementally coated onto the unit substrates.

Accordingly, Appellants respectfully submit that it is not necessary to amend claim 34, since claim 34 does not include a typographical error and that the Examiner's indefiniteness rejection of claims 34-39 under 35 U.S.C. § 112 amounts to clear error.

B. Rejection Of Claims 34-36 Under 35 U.S.C. § 103(a) As Being Unpatentable Over Kaya in view of Morton

1. Kaya and Morton Fail To Disclose All Of The Elements Of Claim 34

To establish a prima facie case of obviousness, all the claim limitations must be taught or suggested by the prior art, In re Royka, 490 F.2d 981 (C.C.P.A. 1974), and "all words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385 (C.C.P.A. 1970). "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Appellants respectfully submit that at the very least, the combination of Kaya and Morton is legally deficient to support a prima facie case of obviousness against claim 34. In particular, Appellants maintain that the combination of Kaya and Morton fails to disclose or suggest all of elements of claim 34.

a. *Kaya And Morton disclose marking not coating devices*

Claim 34 recites, inter alia, an apparatus for coating a photosensitive layer on a substrate, and a coater coating the photosensitive layer on the substrate.

For example, Applicants' disclosure describes coating as a process by which a layer of substance is uniformly applied to portions of a substrate. See, e.g., Fig. 2A, and page 12, lines 9-10 (stating that "coating uniformity of the unit substrate can be improved"). Moreover, a dictionary definition defines coating as covering or spreading with a layer. See Merriam-Webster OnLine Dictionary, www.m-w.com/cgi-bin/dictionary.

In contrast to the claimed embodiment, Kaya and Morton disclose marking apparatuses, which detect defects on a subject and mark the defects with sprays. The devices in Kaya and Morton spray substances at or near a defect to point out a location of a defect. The marks do not result in a coated layer. See, e.g., Kaya, col. 2, lines 43-51 and Morton, col. 3, lines 11-24. Indeed, the marking solution of Kaya, for example, is easily removable by wiping, even after it is dried. See Kaya, col. 3, lines 10-15.

In the June 5, 2006 Advisory Action, the Examiner maintains that "prior art devices apply a non-uniform layer of material on the substrate." However, as stated above, Applicants' disclosure describes coating as a process by which a layer of substance is uniformly applied to portions of a substrate.

Accordingly, Appellants respectfully submit that the cited references do not disclose coating, as recited in claim 34, and therefore, for at least this reason, there are clear errors in Examiner's rejections based on Kaya and Morton.

b. *Kaya and Morton do not disclose coating by the unit substrate*

Kaya and Morton do not disclose a coater coating the photosensitive layer on the substrate by the unit substrate, as recited in claim 34.

As stated above, the phrase “by the unit substrate” as it is used in claim 34 describes that the photosensitive layer is being coated “per or via each unit substrate”, whereby the configuration of the discharging unit allows the layer to be coated only onto the unit substrates 10, 20. See, e.g., Applicants’ Disclosure, Figs. 2B, 3, 4, 5A and 5B; and page 4, lines 11-12 and page 10, line 11 to page 11, line 11.

In contrast to the claimed embodiment, Kaya and Morton disclose spraying devices, which apply a substance in a general location. There is no configuration in the cited references for coating by the unit substrate as claimed.

In the June 5, 2006 Advisory Action, the Examiner maintains that “the Kaya spraying device is capable of coating a certain area/unit/unit substrate of the substrate via a pivoting portion of the coating spray device”. However, the marks generated by the devices of Kaya and Morton are in the general location of the defects, and are not applied with the accuracy and precision required to coat by the unit substrate. See, e.g., Kaya, col. 3, lines 6-9 and 64-66 (stating that the piezo pump 32 can be pivoted toward the spot and the marking solution can be applied onto the spot or in the vicinity of the spot).

Moreover, the nature of spraying is such that precision is lost, resulting in scattering of the sprayed material. See, e.g., Morton, col. 3, lines 15-20 (requiring that the spray device S be positioned away from the apparatus A so as to avoid spraying paint on the apparatus A).

Accordingly, Appellants respectfully submit that the cited references do not disclose coating

by the unit substrate, as recited in claim 34, and therefore, for at least this reason, there are clear errors in Examiner's rejections based on Kaya and Morton.

2. There Is No Motivation To Combine Kaya And Morton To Develop The Embodiment Of Claim 34

To establish a prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

Appellants submit that, whether based on the teachings of the prior art, or the knowledge of persons of ordinary skill in the art, there is no motivation to combine Kaya and Morton to establish obviousness of the claimed apparatus. Appellants respectfully submit that at the very least, the combination of Kaya and Morton is legally deficient to support a prima facie case of obviousness against claim 34. In particular, Appellants submit that one of ordinary skill in the art would not be motivated to combine the relevant teachings of Kaya and Morton in the manner suggested in the Final Action; since there is no suggestion for the combination.

The burden of presenting a prima facie case of obviousness is satisfied by showing that some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead one to combine the relevant teachings of the references. In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988). The suggestion to combine the references should come from the prior art, and the Examiner cannot use hindsight gleaned from the invention itself to pick and choose among related disclosures in the prior art to arrive at the claimed invention. Id. at 1075.

- a. *Modifying Kaya to include a detector disposed in front of the "coater" would render the device in Kaya unsatisfactory for its intended purpose*

The Examiner's proposed modification to Kaya to include the detector D of Morton in front of the marking block 3 (what the Examiner refers to as the "coater") would render the device in Kaya unsatisfactory for its intended purpose of detecting defects and marking the detected defects.

"If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); see MPEP § 2143.01.

Kaya relates to a system for detecting a defect on a car body and subsequently marking the position of the defect for mending or retouching. As stated in Kaya's disclosure, car bodies are conveyed along a production line 7 (belt conveyor). A defect detector 21 supplies the data of a defect spot located on a car body to the system controller 22, which will, in turn, control the marking block 3 to provide a jet of marking solution for marking the position on the car body surface corresponding to the detected defective spot to mend. Kaya, col. 2, lines 25-56.

Since the car body is moving along the production line, the defect detector 21 must be located behind the marking block 3 in order to detect the defective spot before the defective spot reaches the marking block 3. If Kaya was modified as the Examiner proposes, the defect detector 21 would detect the defect after the defective spot passes the marking block 3, rendering the device useless because the marking block 3 would not be provided with information regarding the defect in sufficient time to mark the defect.

Therefore, there is no suggestion for the proposed modification because the proposed modification would render the device in Kaya unsatisfactory for its intended purpose of detecting a defect on a car body and subsequently marking the position of the defect for mending or retouching. Accordingly, for at least this reason, there are clear errors in Examiner's rejections based on Kaya and Morton.

b. Modifying Kaya to include a detector disposed in front of the "coater" would change the principle of operation of Kaya

The Examiner's proposed modification to Kaya to include the detector D of Morton in front of the marking block 3 would require substantial reconstruction of the elements shown in Kaya, so as to change Kaya's principle of operation.

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, such that the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in the primary reference", then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 813, 123 USPQ 349, 352 (CCPA 1959); see MPEP § 2143.01.

As stated above, since the car body is moving along the production line, the defect detector 21 must be located behind the marking block 3 in order to detect the defective spot before the defective spot reaches the marking block 3. Otherwise, the defect detector 21 would detect the defect after the defective spot passes the marking block 3.

Therefore, if Kaya was to be modified as the Examiner proposes, the only way to preserve the function of the Kaya device would be to further modify Kaya to keep the car bodies stationary and move the detector 21 and marking unit 3 along the car bodies.

However, such a modification would require drastic reconstruction and redesign of the Kaya device, including at least eliminating the production line and modifying the support 11, including all of the components mounted thereto, to be movable. Such modifications would require, at a minimum, the addition of heavy driving mechanisms for moving the support, such as tracks, gears and motors. Furthermore, the utility of the Kaya device would be greatly diminished, since car bodies would have to be constantly shuffled in and out of the range of motion of the support 11, instead of easily traveling along the conveyor belt line 7.

Accordingly, there is no suggestion for the proposed modification because modifying Kaya to include a detector in front of the marking unit would require complete redesign of the Kaya device, and change its principle of operation. As such, for at least this reason, there are clear errors in Examiner's rejections based on Kaya and Morton.

Accordingly, for at least the above reasons, one of ordinary skill in the art would not be motivated to combine the relevant teachings of Kaya and Morton to result in the embodiment of claim 34.

3. Kaya and Morton Are Not Analogous Prior Art

Kaya and Morton are not analogous prior art. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). "A

reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992).

The field of the inventors' endeavor is processing of thin films, for example, thin films used for semiconductor applications. More specifically, the embodiments of the present invention relate to discharging photosensitive material onto a semiconductor substrate. Kaya discloses a defect detecting and marking system for detecting and marking defects on the outer surface of a vehicle or car. Morton relates to a testing apparatus for locating anomalies or defects in welds in a pipe. Clearly, Kaya and Morton are not in the same field as the applicants' endeavors.

Appellants claim, inter alia, a discharging unit for discharging the photosensitive material onto the unit substrate, and a detector disposed in front of the coater, the detector detecting foreign matters on the surface of the substrate. A transfer unit may be stopped from moving the discharging unit along a substrate to prevent the discharging unit and the substrate from being damaged by foreign matters detected by the detector. Further, to conserve expensive photosensitive material, the photosensitive material is coated in specific areas (by the unit substrate) on a mother substrate, not on the entire mother substrate.

While it is true that the Kaya and Morton devices both detect defects, Kaya and Morton are not reasonably pertinent to the problems associated with discharging photosensitive material onto a substrate because the cited references are not concerned with stopping a coating operation if defects are detected to prevent damage to a coater or to an object being coated. In contrast, the devices in Kaya and Morton use the defect data to mark points where the defects occur. Unlike Kaya and

Morton, appellants disclose an apparatus which prevents coating when foreign matter is detected so as to prevent damage to a discharge unit and to a substrate. In addition, unlike appellants' apparatus, there is no mechanism for coating "by the unit substrate" so as to conserve the materials used for marking.

Thus, Kaya and Morton do not qualify as analogous art under either of the Oetiker tests.

Accordingly, for at least the above reasons, Appellants respectfully submit that the Examiner has not established a prima facie case of obviousness of claim 34 with the Kaya and Morton references.

For at least the reason that claims 35 and 36 depend from claim 34, claims 35 and 36 are also submitted to be patentably distinct over the cited references.

As such, Appellants respectfully submit that the Examiner committed clear error when rejecting claims 34-36 under 35 U.S.C. § 103(a) in view of Kaya and Morton.

C. Rejection Of Claims 34-36 Under 35 U.S.C. § 103(a) As Being Unpatentable Over Kaya in view of Morton And, If Necessary, Chase and Benner

The Examiner maintains that Kaya and Morton, when taken in combination with Chase and Benner render obvious a transfer unit which moves a discharging unit along a length of a substrate. Assuming, arguendo, claim 34 is construed to include this limitation, appellants maintain that Kaya and Morton, when taken in combination with Chase and Benner do not render obvious a transfer unit which moves a discharging unit along a length of a substrate.

First, Appellants incorporate the arguments made above in connection with the section 103(a) rejections based solely on Kaya and Morton.

In addition, Appellants submit that: (1) in contrast to the Examiner's assertion, it would not

have been obvious to modify the Kaya apparatus to arrange detectors and coaters on arched support capable of traveling along the length of the surface of the substrate; and (2) Chase and Benner are not analogous prior art.

1. Modifying Kaya To Arrange Detectors And Coaters On A Movable Arched Support Would Change The Principle Of Operation Of Kaya

As stated and argued above in section VIII.B.2.b. above, modifying Kaya to include coaters and detectors on an arched support capable of traveling along the length of a surface of a substrate would require substantial reconstruction of the elements shown in Kaya, so as to change Kaya's principle of operation. As such, there is no motivation for such a modification. See supra, In re Ratti and MPEP § 2143.01.

As argued above, the proposed modification would require drastic reconstruction and redesign of the Kaya device, including at least eliminating the production line and the addition of heavy driving mechanisms, such as tracks, gears and motors for moving the support 11. Furthermore, the utility of the Kaya device would be greatly diminished, since car bodies would have to be constantly shuffled in and out of the range of motion of the support 11, instead of easily traveling along the conveyor belt line 7.

Accordingly, there is no suggestion for the proposed modification because modifying Kaya to include the proposed arched support would require complete redesign of the Kaya device, and change its principle of operation. As such, for at least this reason, there are clear errors in Examiner's rejections based on Kaya, Morton, Chase and Benner.

Accordingly, for at least the above reasons, one of ordinary skill in the art would not be motivated to combine the relevant teachings of Kaya, Morton, Chase and Benner to result in a

transfer unit which moves a discharging unit along a length of a substrate.

2. Chase and Benner Are Not Analogous Prior Art

Chase and Benner are not analogous prior art. Chase and Benner are not in the field of applicant's endeavor, and are not reasonably pertinent to the particular problem with which the inventor was concerned. See supra In re Oetiker.

As stated above, the field of the inventors' endeavor is processing of thin films, for example, thin films used for semiconductor applications, and relates to discharging photosensitive material onto a semiconductor substrate. Chase discloses a multiple foam wax apparatus for use on a roll-over type wash system designed to wax a vehicle. Benner relates to a spraying apparatus for spraying between rows of a plurality of moving objects, such as glass containers. Clearly, Chase and Benner are not in the same field as the applicants' endeavors.

As stated above, Appellants claim, inter alia, a discharging unit for discharging the photosensitive material onto the unit substrate, and a detector disposed in front of the coater, the detector detecting foreign matters on the surface of the substrate. A transfer unit may be stopped from moving the discharging unit along a substrate to prevent the discharging unit and the substrate from being damaged by foreign matters detected by the detector. Further, to conserve expensive photosensitive material, the photosensitive material is coated in specific areas (by the unit substrate) on a mother substrate, not on the entire mother substrate.

Chase and Benner are not reasonably pertinent to the problems associated with discharging photosensitive material onto a substrate. Indeed, Chase and Benner have nothing to do with discharging photosensitive material onto a substrate. In contrast to appellants' claimed apparatus, the cited references do not include any disclosure regarding detection of foreign matter. Further, unlike

appellants' apparatus, there is no mechanism for conserving the sprayed material, or for precise spraying of material (e.g., by the unit substrate).

Thus, Chase and Benner do not qualify as analogous art under either of the Oetiker tests.

Accordingly, for at least the above reasons, Appellants respectfully submit that the Examiner has not established a prima facie case of obviousness of claim 34 with the Kaya, Morton, Chase and Benner references.

For at least the reason that claims 35 and 36 depend from claim 34, claims 35 and 36 are also submitted to be patentably distinct over the cited references.

As such, Appellants respectfully submit that the Examiner committed clear error when rejecting claims 34-36 under 35 U.S.C. § 103(a) in view of Kaya, Morton, Chase and Benner.

Therefore, for at least the foregoing reasons, Appellants request that the Board reverse the Examiner's rejections of claims 34-39 under 35 U.S.C. § 112 and the rejections of claims 34-36 under 35 U.S.C. §103(a).

D. CONCLUSION

Accordingly, for at least the reasons set forth above, claims 34-39 are patentable.

Therefore, it is respectfully requested that the Board reverse all claim rejections under 35 U.S.C. §112 and § 103(a).

Respectfully submitted,

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CLAIMS APPENDIX

34. An apparatus for coating a photosensitive layer on a substrate, comprising:

- a support supporting a substrate having a plurality of unit substrates on which a photosensitive material is coated;
- a coater including a discharging unit for discharging the photosensitive material onto the unit substrate and a transfer unit for moving the discharging unit along a surface of the substrate, the coater coating the photosensitive layer on the substrate by the unit substrate;
- a detector disposed in front of the coater, the detector detecting foreign matters on the surface of the substrate; and
- a controller controlling the coater and the detector.

35. The apparatus for coating a photosensitive layer of claim 34, wherein the detector includes an image sensor photographing the surface of the substrate and creating a surface image of the surface of the substrate.

36. The apparatus for coating a photosensitive layer of claim 35, wherein the image sensor includes a camera having a charge-coupled device (CCD).

37. The apparatus for coating a photosensitive layer of claim 34, wherein the transfer unit includes an interrupter, the interrupter forcibly stopping the transfer unit for preventing the discharging unit from being damaged by foreign matters.

38. The apparatus for coating a photosensitive layer of claim 34, further comprising an inspector disposed in rear of the discharging unit, the inspector inspecting a surface of the photosensitive layer coated on the substrate.

39. The apparatus for coating a photosensitive layer of claim 38, wherein the inspector includes an image sensor photographing the surface of the photosensitive layer and creating a surface image of the surface of the photosensitive layer.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.

AF/IFW
PTO/SB/21 (09-04)Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL
FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/790,081
Filing Date	March 2, 2004
First Named Inventor	Seong-Bong Kim
Art Unit	1734
Examiner Name	Brenda A. Lamb
Attorney Docket Number	8054L-204T (LW8102US/MS)

ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
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<input type="checkbox"/> Reply to Missing Parts/ Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53		
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	F. Chau & Associates, LLC		
Signature			
Printed name	Michael F. Morano		
Date	August 25, 2006	Reg. No.	44,952

CERTIFICATE OF TRANSMISSION/MAILING

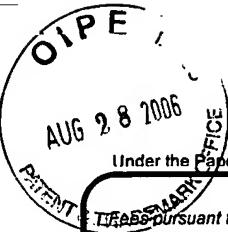
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Signature			
Typed or printed name	Michael F. Morano	Date	August 25, 2006

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FEES pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL

For FY 2005

 Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 500.00)

Complete if Known

Application Number	10/790,081
Filing Date	March 2, 2004
First Named Inventor	Seong-Bong Kim
Examiner Name	Brenda A. Lamb
Art Unit	1734
Attorney Docket No.	8054L-204T (LW8102US/MS)

METHOD OF PAYMENT (check all that apply)

 Check Credit Card Money Order None Other (please identify): _____

 Deposit Account Deposit Account Number: 50-0679 Deposit Account Name: _____

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

 Charge fee(s) indicated below Charge fee(s) indicated below, except for the filing fee

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fees Paid (\$)
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

2. EXCESS CLAIM FEES

Fee Description

Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent

Fee (\$)	Small Entity Fee (\$)
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50 25

Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent

200 100

Multiple dependent claims

360 180

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims	Fee (\$)	Fee Paid (\$)
- 20 or HP = 0	x 50.00	= 0		360.00	0	

HP = highest number of total claims paid for, if greater than 20

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
- 3 or HP = 0	x 200.00	= 0	

HP = highest number of independent claims paid for, if greater than 3

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 = 0	/ 50 = (round up to a whole number)	x 250.00 = 0		

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Fees Paid (\$)	0
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Other: Appeal Brief Fee

500.00

SUBMITTED BY		Registration No. (Attorney/Agent)	Telephone
Signature	<u>Michael F. Morano</u>	44,952	516-692-8888
Name (Print/Type)	Michael F. Morano		Date August 25, 2006

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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